

Patent Application No. 10/002,998

**REMARKS**

This Amendment is in response to the Final Office Action dated November 29, 2004. In the Office Action, the specification was objected to, claims 1 and 3-24 were rejected under 35 USC §102, and claim 2 was rejected under 35 USC §103. By this Amendment, claim 27 is canceled. Currently pending claims 1-26 are believed allowable, with claims 1, 6, 10, 12, 14-17 and 24 being independent claims.

OBJECTIONS TO THE SPECIFICATION:

The Final Office Action points out that reference number 500 at page 12, line 19 was not corrected to reference number 111. Final Office Action, page 14, paragraph 3. By this Amendment, the reference number 500 is changed to reference number 111 at page 12, line 19 of the specification.

The specification was objected to for the use of "initial node" at page 15, line 7. Final Office Action, page 15, paragraph 3. By this Amendment, the words "initial node" are replaced with the "initial content node", as suggested by the Examiner.

The specification was objected to in the Final Office Action for use of parentheses around item numbers. See Office Action, page 14, paragraph 2. The Applicant respectfully submits that the use of parentheses does not detract from the description of the invention. Furthermore, the Applicant finds no law or regulation prohibiting the use of parentheses around item numbers in the specification. A cursory search of issued patents reveals numerous issued patents with parentheses or brackets around item numbers. See, for example, U.S. Patent Nos. 6,515,504, 6,267,871, 6,271,022, 6,271,782, 6,282,570, 6,473,011, 6,560,461, 6,607,508, 6,609,124, 6,630,622, 6,271,022, 6,271,782, 6,279,994, 6,282,570, 5,193,185, 5,378,877, and 5,562,572. For the above reasons, the Applicant respectfully traverses this objection to the specification.

CLAIM REJECTIONS:

Claims 1 and 3-27 of the pending Application stand rejected under 35 USC §102 as anticipated by U.S. Patent No. 6,564,263 to Bergman et al. ("Bergman"). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a

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single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP 2131.

"To establish inherency, the extrinsic evidence 'must make clear' that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" MPEP 2112 quoting *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." MPEP 2112 quoting *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

The present invention deals with representing semantic concepts and their relations by associating words and multimedia content with concepts and by describing lexical, semantic and perceptual relationships. Application, page 1, lines 7-10. A graphical representation of a network according to the present invention is shown in Fig. 2. The nodes (200, 201, 202) in the network represent semantic concepts. Each concept node may be associated with multimedia content (207, 208, 209) and words (205, 206). Application, page 10, lines 2-3. Relationships between nodes, such as semantic, lexical, content and feature relationships, are represented as arcs (210, 211, 212). Application, page 10, lines 4-5.

In one embodiment of the invention, a search engine may be used to navigate relationship arcs of the concepts associated with matching words and multimedia content to find other concepts (nodes) that relate to an initial node. Application, page 14, lines 19-22. Here, a query is accepted and matched to words and multimedia content related to the concepts encoded in the media network knowledge representation. Application, page 14, lines 5-10. By doing so, the query input can be used to retrieve concepts, content, terms, or feature descriptors related to the input. Application, page 8, lines 3-5.

Claim 1 recites, in part, "forming a network having nodes that represent semantic concepts." In rejecting claim 1, the Final Office Action cites column 10, lines 11-29, column 20, lines 57-65, and Figs. 8-9 of Bergman as allegedly teaching forming a network having nodes that represents semantic concepts. Final Office Action, page 3.

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Fig. 9 of Bergman is a graphical representation illustrating an example of feasible modality translations and fidelity summarizations within an "InfoPyramid" framework. Bergman, column 4, lines 34-37. The InfoPyramid describes content in different modalities (e.g., video, audio, text, etc.) and at different fidelities. Bergman, column 7, lines 14-16. Each adjacent node corresponds to a transformation, either between two different modalities or between two different fidelities. Bergman, column 10, lines 11-15. Fig. 8 is a block diagram illustrating a preferred data model or description scheme for an InfoPyramid. Bergman, column 8, lines 12-16.

The Applicant respectfully submits, however, that missing from Bergman is a teaching of semantic concepts included with the InfoPyramid framework. Bergman describes a framework that provides content transformations (modality and/or fidelity), but does not present semantic knowledge. In addition, column 20, lines 57-65 of Bergman (cited by the Examiner) mentions that the multimedia content description system may be used to in a Web search engine, but does not supply a teaching of forming a network having nodes that represent semantic concepts, as recited in claim 1.

In response to the above Arguments, the Final Office Action cites a passage in the present Application explaining that the representation shown in Fig. 2 can be implemented using any computer data structures that allow modelling of graphs or networks. This passage has nothing to do with the issue of whether or not Bergman teaches a network having nodes that represent semantic concepts, and no explanation of its relevance is given in the Final Office Action.

The Final Office Action further states, "Bergman Fig. 8-9, column 10, lines 11-29 and column 20, lines 57-65 are cited for explicitly and inherently disclosing the subject matter set forth in the claims by the applicants." Final Office Action, page 16 (emphasis added). In response, the Applicant respectfully submits that the Final Office Action does not specifically identify descriptive matter considered inherent in Bergman, let alone present any extrinsic evidence making clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. The Examiner has not provided a basis in fact or technical reasoning to reasonably support the determination that allegedly inherent characteristic necessarily flows from the teachings of Bergman.

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Thus, the Applicant respectfully submits that Bergman does not anticipate claim 1 and earnestly requests allowance of this claim.

Claims 2-5, 25 and 26 are dependent on and additionally limit claim 1. Since claim 1 is allowable over the cited art, claims 2-5, 25 and 26 are also allowable over the cited art for at least the same reasons as claim 1.

Claim 6 recites, in part, "an encoded media network knowledge representation that comprises a network having nodes that represent semantic concepts, one or more words and multimedia associated with the one or more nodes, and wherein relationships between the nodes are represented as arcs between associated words and arcs between associated multimedia contents." In rejecting claim 6, the Final Office Action cites column 22, lines 5-16, column 2, lines 34-37, column 7, lines 17-25, column 23, lines 22-53, column 10, lines 11-29, Figs. 9, 11-14, 17-19 and column 22, lines 26-39. Final Office Action, page 17. The Final Office Action states that Bergman is "cited for explicitly and inherently disclosing the subject matter set forth in claim 6." Final Office Action, page 17 (emphasis added).

As discussed above, Bergman teaches a graphical representation illustrating feasible modality translations and fidelity summarizations within an "InfoPyramid" framework. Bergman, column 4, lines 34-37. The InfoPyramid describes content in different modalities (e.g., video, audio, text, etc.) and at different fidelities. Bergman, column 7, lines 14-16. Each adjacent node corresponds to a transformation, either between two different modalities or between two different fidelities. Bergman, column 10, lines 11-15. Fig. 8 is a block diagram illustrating a preferred data model or description scheme for an InfoPyramid. Bergman, column 8, lines 12-16.

The Applicant respectfully submits, however, that missing from Bergman is a teaching of semantic concepts included with the InfoPyramid framework. Bergman describes a framework that provides content transformations (modality and/or fidelity), but does not present semantic knowledge. Moreover, the Final Office Action does not specifically identify descriptive matter considered inherent in Bergman, let alone present any extrinsic evidence making clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. The Examiner has not provided a basis in fact or

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technical reasoning to reasonably support the determination that allegedly inherent characteristic necessarily flows from the teachings of Bergman.

Thus, the Applicant respectfully submits that Bergman does not anticipate claim 6 and earnestly requests allowance of this claim.

Claims 7-9 are dependent on and further limit claim 6. Since claim 6 is allowable over the cited art, claims 7-9 are also allowable over the cited art for at least the same reasons as claim 6.

Claim 10 recites, in part, "an encoded media network knowledge representation that comprises a network having nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 10. Therefore, the Applicant respectfully submits that claim 10 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 11 is dependent on and additionally limits claim 10. Since claim 10 is allowable over the cited art, claim 11 is also allowable over the cited art for at least the same reasons as claim 10.

Claim 12 recites, in part, "an encoded media network knowledge representation that comprises a network having nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 12. Therefore, the Applicant respectfully submits that claim 12 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 13 is dependent on and additionally limits claim 12. Since claim 12 is allowable over the cited art, claim 13 is also allowable over the cited art for at least the same reasons as claim 12.

Claim 14 recites, in part, "an encoded media network knowledge representation that comprises a network having nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 14. Therefore, the Applicant respectfully submits that claim 14 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 15 recites, in part, "an encoded media network knowledge representation that comprises an encoded network having nodes that represent semantic concepts." As discussed above, Bergman does not teach a network

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having nodes that represent semantic concepts, as recited in claim 15. Therefore, the Applicant respectfully submits that claim 15 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 16 recites, in part, "an encoded media network knowledge representation that includes an encoded network having nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 16. Therefore, the Applicant respectfully submits that claim 16 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 17 recites, in part, "means for forming a network having logical nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 17. Therefore, the Applicant respectfully submits that claim 17 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claims 18-23 are dependent on and further limit claim 17. Since claim 17 is allowable over the cited art, claims 18-23 are also allowable over the cited art for at least the same reasons as claim 17.

Claim 24 recites, in part, "first instructions for forming a network having logical nodes that represent semantic concepts." As discussed above, Bergman does not teach a network having nodes that represent semantic concepts, as recited in claim 24. Therefore, the Applicant respectfully submits that claim 24 is not anticipated by Bergman, and earnestly requests allowance of this claim.

Claim 27 was indicated as not supported by page 7, lines 7-22 of the Application. By this Amendment, claim 27 is cancelled amendment in order to place the Application either in condition for allowance or in better form for appeal.

**CONCLUSION**

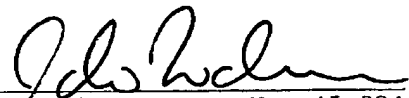
In view of the forgoing remarks, it is respectfully submitted that the pending Application is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

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No additional Fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof.

Respectfully submitted,

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**MARKUP SHEET**

Please replace the paragraph beginning at page 12, line 14 with the following paragraph:

Referring to Figure 5, the media network knowledge representation can be encoded (501) using the ISO MPEG-7 Description Definition Language (DDL) as shown in Table 1 to provide an XML representation of the media network knowledge representation (111). The MPEG-7 representation can be further encoded into a compact binary form using the MPEG-7 BiM binary encoding system. Once encoded using MPEG-7, the media network knowledge representation ~~(500)~~ (111) can be stored persistently, such as in a database (503), or can be transmitted over a network, or carried with the multimedia data in a transport stream.

Please replace the paragraph beginning at page 15, line 3 with the following paragraph:



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For example, the input query may find an initial match to node (607), which is a word or content node associated with concept (608). Then, the arcs (611 and 612) expanding from (608) are evaluated and traversed to find connected concept nodes (609 and 610). Then, the words and content associated with these nodes (614 and 615) as well as the words and content associated with the initial content node (613) are returned to the search engine in step (606). These items can then be returned by the query processor in step (604).